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| 10/669,883 | 09/23/2003 | Scott Manalis | 0492611-0510 (MIT 10443) | 2224 |
| 24280 | 7590 | 03/21/2006 | EXAMINER | |
| CHOATE, HALL & STEWART LLP TWO INTERNATIONAL PLACE BOSTON, MA 02110 | | | FORMAN, BETTY J | |
| | | | ART UNIT | PAPER NUMBER |
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DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,883

Applicant(s)

MANALIS ET AL.

Examiner

BJ Forman

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1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 and 162-165 is/are pending in the application.
- 4a) Of the above claim(s) 8, 18, 22-27 and 29-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-17, 19-21, 28, 43, 44, 46 and 162-165 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

Status of the Claims

1. This action is in response to papers filed 23 September 2005 in which claims 1-5, 7, 9, 14-17, 1-, 28, 43-44 were amended, claim 161 was canceled and claims 162-165 were added. All of the amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action 31 March 2005, not reiterated below, are withdrawn in view of the amendments.

The previous rejections under obviousness-type double patenting are maintained.

Applicant's arguments have been thoroughly reviewed and are discussed below as they apply to the instant grounds for rejection. New grounds for rejection, necessitated by amendment, are discussed.

Claims 1-7, 9-17, 19-21, 28, 43-45, 46 and 162-165 are under prosecution.

Specification

2. The amendment filed 22 July 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendment introduces a first paragraph cross-referencing co-pending application 10/336,549. The amendment states that this application is a "Continuation-in-Part of the co-pending application and claims priority to provisional application 60/405,184. The first paragraph and priority claim are deemed new matter. 37 C.F.R. § 1.78(ii)- (iii) states:

This reference must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or

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sixteen months from the filing date of the prior-filed application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371 (b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed application. These time periods are not extendable. Except as provided in paragraph (a)(3) of this section, the failure to timely submit the reference required by 35 U.S.C. 120 and paragraph (a)(2)(i) of this section is considered a waiver of any benefit under 35 U.S.C. 120, 121, or 365(c) to such prior-filed application.

The reference was not timely submitted. Therefore, the amendment constitutes new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 162 and 165 are rejected under 35 U.S.C. 102(b) as being anticipated by Boisseau et al (U.S. Patent No. 4,896,966, issued 30 January 1990).

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Regarding Claim 1, Boisseau et al disclose an apparatus for detecting an analyte comprising a suspended beam comprising a microfluidic channel (motility scanner #50) and connected to at least one mechanically stable support (support #16) wherein the channel has at least one surface (e.g. diluent e.g. Hepes) that reacts with the analyte (e.g. suspend sperm) (Column 7, lines 40-50 and fig. 1-2).

Regarding Claim 2, Boisseau et al disclose the apparatus of Claim 1. The instant claim recites “the microfluidic channel is treated with a capture ligand that binds the analyte”. This is a recitation of intended use for the apparatus but does not define or further limit the structure of the apparatus.

Regarding Claim 162, Boisseau et al disclose the apparatus wherein the beam is in a controlled environment i.e. portable housing #26 (Column 3, lines 35-40).

Regarding Claim 165, Boisseau et al disclose the apparatus wherein the beam is suspended between two mechanically stable supports (#110, Fig. 7).

Response to Arguments

5. Applicant argues that Boisseau et al do not teach a microfluidic channel because the dimension of their channel is “orders of magnitude ($\sim 10^5$) larger than sub-nanoliter scale of microfluidics.” The argument has been considered but is not found persuasive because the claimed channels are not limited or defined by specific dimensions. The claims merely define the channel as microfluidic. Furthermore, any dimensions can be defined on the micro or sub-nanoliter scale. By definition one liter comprises 10^9 nanoliters. Because the claims do not define or limit the dimension of the channel and because any dimension can be defined on the micro scale, the channel of Boisseau et al is encompassed by the claimed channel.

Applicant further argues that the Hepes of Boisseau et al does not react with or bind to sperm as claimed. The argument has been considered but is not found persuasive because as Applicant notes, the Hepes “serves as the media into which the sperm is suspended”. Hence, the Hepes reacts with the sperm via suspending the sperm in the media.

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6. Claims 1-2, 162 and 165 are rejected under 35 U.S.C. 102(b) as being anticipated by Pinkel et al (U.S. Patent No. 5,982,534, issued 9 November 1999).

Regarding Claim 1, Pinkel et al disclose an apparatus for detecting an analyte comprising a suspended beam comprising a microfluidic channel (specimen slide with grooves, Column 5, lines 27-34 or channel formed between slide and coverslip, Column 5, lines 37-47) and connected to at least one mechanically stable support (specimen holder, Column 5, lines 48-57) wherein the channel has at least one chemical species (e.g. Column 5, lines 13-26) that reacts with the analyte (sample, Column 8, line 65-column 9, line 13).

Regarding Claim 2, Pinkel et al disclose the apparatus of Claim 1 wherein an analyte binds (Column 5, lines 16-26). The instant claim recites "the microfluidic channel is treated with a capture ligand that binds the analyte". This is a recitation of intended use for the apparatus but does not define or further limit the structure of the apparatus.

Regarding Claim 162, Pinkel et al disclose the apparatus wherein the beam is in a controlled environment e.g. arms for positioning slide (Column 11, lines 19-24).

Regarding Claim 165, Pinkel et al disclose the apparatus wherein the beam is suspended between two mechanically stable supports (#127).

Response to Arguments

7. Applicant argues that the optical cavity of Pinkel is placed on top of a prism making it rigid and therefore, is not a suspended beam as instantly claimed. The argument has been considered but is not found persuasive because Pinkel clearly teach a suspended beam (#107, fig. 1). The instant claims do not define the beam as non-rigid. Therefore the argument is not commensurate in scope with the claims.

Applicant argues that Pinkel et al do not teach a microfluidic channel because the dimension of their channel is "at least three orders of magnitude" than that claimed. The

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argument has been considered but is not found persuasive because the claimed channels are not limited or defined by specific dimensions.

8. Claims 1, 2, 43-44 and 162 are rejected under 35 U.S.C. 102(a) as being anticipated by Savaran et al (J Microelectro. Systems, 6 December 2002, 11(6): 703-708).

Regarding Claim 1, Savran et al disclose an apparatus comprising at least one beam (cantilever) suspended and connected to at least one mechanically stable support wherein the beam contains microfluidic channels (trenches) having chemical species (gold) for analyte reaction (page 704, right column-page 705 and Fig. 1-3).

Regarding Claim 2, Savran et al disclose the apparatus of Claim 1. The instant claim recites "the microfluidic channel is treated with a capture ligand that binds the analyte". This is a recitation of intended use for the apparatus but does not define or further limit the structure of the apparatus.

Regarding Claim 43, Savran et al disclose the apparatus wherein the channels have a depth of between 100 and 3000nm (page 704, right column-page 705 and Fig. 1-3).

Regarding Claim 44, Savran et al disclose the apparatus wherein the channels have a thickness of between 100 and 1200nm (page 704, right column-page 705 and Fig. 1-3).

Regarding Claim 162, Savran et al disclose the apparatus within a controlled environment e.g. pipette (Fig. 4).

Response to Arguments

9. Applicant argues that Savran et al do not teach a microfluidic channel because the dimension of their channel is "orders of magnitude ($\sim 10^5$) larger than sub-nanoliter scale of microfluidics." The argument has been considered but is not found persuasive because the claimed channels are not limited or defined by specific dimensions. The claims merely define the channel as microfluidic. Furthermore, any dimensions can be defined on the micro or

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sub-nanoliter scale. By definition one liter comprises 10^9 nanoliters. Because the claims do not define or limit the dimension of the channel and because any dimension can be defined on the micro scale, the channel of Savran et al is encompassed by the claimed channel.

10. Claims 1-2, 28, 43-44 and 161-162 are rejected under 35 U.S.C. 102(e) as being anticipated by Fritz et al (U.S. Patent Application Publication No. 2003/0073071, filed 23 July 2002).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Fritz et al disclose an apparatus comprising at least one beam (cantilever, 710₁, Fig. 7) suspended and connected to at least one mechanically stable support (mounting surface, 720, Fig. 7) wherein the beam contains microfluidic channels (sensing surface, 100₁, Fig. 7 with sample containing region, 105 as illustrated in Fig. 1) having chemical species (probe molecules, 115, Fig. 1) for analyte reaction (§ 28-31).

Regarding Claim 2, Fritz et al disclose the chemical species is a capture ligand (§ 31).

Regarding Claim 28, Fritz et al disclose the detector measures conductivity (§ 8).

Regarding Claim 43, Fritz et al disclose the apparatus wherein the channels have a depth of between 100 and 3000nm (§ 44).

Regarding Claim 44, Fritz et al disclose the apparatus wherein the channels have a thickness of between 100 and 1200nm (§ 44).

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Regarding Claim 161, Fritz et al disclose the apparatus further comprising detectors for measuring a change (§ 33-36).

Regarding Claim 162, Fritz et al disclose the apparatus within a controlled environment i.e. inserted into microfluidic channel (§ 14 and 36).

Response to Arguments

11. Applicant asserts that Fritz et al do not teach a microfluidic channel within the cantilever beam as claimed. The argument has been considered but is not found persuasive because the claims do not require the channel within the beam as asserted. In contrast the claims define the beam “contains” a channel. As such, any portion of the beam having a channel is encompassed by the claim.

12. Claims 1-7, 19, 28, 43-44 and 161-162 are rejected under 35 U.S.C. 102(e) as being anticipated by Manalis (U.S. Patent Application Publication No. 2004/0038426, filed 2 January 2003).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Manalis discloses an apparatus comprising at least one beam (cantilever, 115, Fig. 1) suspended and connected to at least one mechanically stable support (support, 120, Fig. 1) wherein the beam contains microfluidic channels (110, Fig. 1) having chemical species for analyte reaction (§ 34-35).

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Regarding Claim 2, Manalis discloses the chemical species is a capture ligand (§ 34).

Regarding Claim 3, Manalis discloses the apparatus wherein the beams are resonating and the detector measures resonance (§ 36).

Regarding Claim 4, Manalis disclose the apparatus wherein the capture ligand is bound to the interior surface (§ 33-34).

Regarding Claim 5, Manalis discloses the apparatus further comprising a gel and the ligand is bound to the gel (§ 33).

Regarding Claim 6, Manalis discloses the apparatus wherein the beam has two channels that meet, then separate (Fig. 1).

Regarding Claim 7, Manalis discloses the apparatus wherein the analyte is transported via pressure from fluid flow (§ 36). While Manalis discloses this functionality, the recited function does not further limit the structural components of the apparatus.

Regarding Claim 19, Manalis discloses the detectors are ligand is a nucleic acid (§ 35)

Regarding Claim 28, Manalis discloses the detector measures conductivity (§ 8).

Regarding Claim 43, Manalis discloses the apparatus wherein the channels have a depth of between 100 and 3000nm (§ 57-59).

Regarding Claim 44, Manalis discloses the apparatus wherein the channels have a thickness of between 100 and 1200nm (§ 57-59).

Regarding Claim 161, Manalis discloses the apparatus further comprising detectors for measuring a change (§ 33 and 39).

Regarding Claim 162, Manalis discloses the apparatus within a controlled environment i.e. multiple beams attached to a single base for calorimetric and mass measurements (§ 26 and Fig. 4).

Response to Arguments

13. Applicant states that a petition has been filed to claim priority to the Manalis reference thereby removing the reference as prior art. The petition has been received by the office, but

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has not been reviewed. Furthermore, the Manalis reference has a different inventive entity for that of the instant application. Therefore, the Manalis reference is “by another” and still constitutes prior art under 35 U.S.C. 102(e).

14. Claims 1-7, 9-14, 43-44 and 163-164 are rejected under 35 U.S.C. 102(e) as being anticipated by Geli (U.S. Patent Application Publication No. 2003/0027354, filed 10 June 2002).

Regarding Claim 1, Geli discloses an apparatus comprising at least one beam (cantilever, 13, Fig. 3-4) wherein the beam contains sealed microfluidic channels i.e. made of porous material (§ 244 & 270) and connected to microchannels (claims 15) having chemical species for analyte reaction i.e. functional groups and capture molecules (§ 270-272). Geli further teach measurement of cantilever flex and/or resonance (§ 262 and 263) which requires freedom of movement for some portion of the cantilevers. The claimed “suspended” is interpreted to encompass the portion of cantilever feed to flex and/or resonate.

Regarding Claim 161, Geli discloses the apparatus further comprising detectors for measuring a change (§ 21).

Regarding Claim 2, Geli discloses the chemical species is a capture ligand (§ 21-23).

Regarding Claim 3, Geli discloses the apparatus wherein the beams are resonating and the detector measures resonance (§ 263 & 266-272).

Regarding Claim 4, Geli discloses the apparatus wherein the capture ligand is bound to the interior surface or the microchannel associated with the cantilever (§ 10 and 36).

Regarding Claim 5, Geli discloses the apparatus further comprising a gel and the ligand is bound to the gel (§ 10).

Regarding Claim 6, Geli discloses the apparatus wherein the beam has two channels that meet, then separate downstream (§ 10).

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Regarding Claim 7, Geli discloses the apparatus wherein the analyte is transported via pressure from fluid flow (¶ 191 and 327). While Geli discloses this functionality, the recited function does not further limit the structural components of the apparatus.

Regarding Claim 9, Geli discloses the apparatus wherein the resonance is driven by electrodes (¶ 268).

Regarding Claim 10 Geli discloses the apparatus wherein one of the electrodes is common (¶ 268, lines 4-6).

Regarding Claims 11-12 Geli discloses the electrodes are gold via electrical connection to gold cantilevers (¶ 266-268).

Regarding Claim 13, Geli discloses the apparatus wherein the common electrode is in contact with each cantilever (¶ 268, lines 4-8 and ¶ 2690).

Regarding Claim 14, Geli discloses the apparatus wherein the solution is electrolyte (¶ 99, lines 22-26 and ¶ 175).

Regarding Claim 43, Geli discloses the apparatus wherein the channels have a depth of between 100 and 3000nm (¶ 61).

Regarding Claim 44, Geli discloses the apparatus wherein the channels have a thickness of between 100 and 1200nm (¶ 61).

Regarding Claim 163, Geli discloses the apparatus wherein the beam is resonating and the device measures changes in resonance frequency (¶ 263).

Regarding Claim 164, Geli discloses the apparatus wherein the beam is a cantilever (Abstract and ¶ 263).

Response to Arguments

15. Applicant asserts that Geli does not teach a microfluidic channel within the cantilever beam as claimed. The argument has been considered but is not found persuasive because the claims do not require the channel within the beam as asserted. In contrast the claims define

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the beam "contains" a channel. As such, any portion of the beam having a channel is encompassed by the claim.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 15-17, 19-21, 28, 46 and 162 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geli (U.S. Patent Application Publication No. 2003/0027354, filed 10 June 2002) in view of Kley (U.S. Patent No. 6,337,479, filed 21 July 1999).

Regarding Claims 46 and 162, Geli discloses an apparatus comprising at least one beam (cantilever, 13, Fig. 3-4) wherein the beam contains microfluidic channels i.e. made of porous material (§ 270) and connected to microchannels (claims 15) having chemical species for analyte reaction i.e. functional groups and capture molecules (§ 270-272). Geli further teaches measurement of cantilever flex and/or resonance (§ 262 and 263) which requires freedom of movement for some portion of the cantilevers. The claimed "suspended" is interpreted to encompass the portion of cantilever feed to flex and/or resonate.

Geli teaches the apparatus comprises detection means are selected according to the nature of the desired detection (§ 21) but they do not teach capacitors or detection of conductivity. Geli is silent regarding a controlled and low-pressure environment for the apparatus.

However, Kley teaches a similar apparatus comprising a suspended cantilever for analyte detection or measurement (Fig. 1-3) wherein the apparatus functions more accurately

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in a controlled and low-pressure (vacuum) environment (Column 30, lines 35-42). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the controlled, low-pressure environment of Kley to the apparatus of Geli for the expected benefit of increasing apparatus accuracy as taught by Kley (Column 30, lines 35-42).

Regarding Claim 15-17, Geli teaches the apparatus comprises detection means are selected according to the nature of the desired detection (§ 21) but they do not teach capacitors. Kley teaches their similar apparatus wherein the detectors are capacitors comprising two capacitor plates whereby a gap formed between the plates is measured via a change in voltage between the plates to provides a calibrating measurement (Column 34, lines 1-27). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the capacitors of Kley to the apparatus of Geli for the expected benefit of calibrating measurement as taught by Kley (Column 34, lines 1-27).

Regarding Claim 19-21, Geli teaches the apparatus is used for analysis of biological samples (Abstract) but they are silent regarding nucleic acids and single or double stranded DNA. Kley teaches their similar apparatus is used for biological molecules e.g. DNA (Column 9, lines 50-55). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to provide nucleic acids (e.g. single or double stranded DNA) to the apparatus of Geli based on their suggested biological applications (Abstract) and further based on the well know use of DNA in the similar apparatus of Kley (Column 9, lines 50-55).

Regarding Claim 28, Geli teaches the cantilever has a conductive coating (e.g. gold) but they do not teach a detector for conductivity. Kley teaches their similar apparatus wherein the cantilever has a conductive coating and wherein the detector measures conductivity of the cantilever to thereby calibrate the apparatus (Column 20, lines 15-45). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the apparatus of Geli with the conductivity detector of Kley for the expected benefit of calibrating the apparatus as taught by Kley (Column 20, lines 15-45).

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Response to Arguments

18. Applicant argues that Kley dose not overcome the deficiencies of Geli and therefore the cited art does not teach the claimed invention. The argument has been considered but is not found persuasive for the reasons stated above regarding Geli.

Double Patenting

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claims 1-7, 9-17, 19-21, 28, 43-44 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 and 30-33 of copending Application No. 10/201,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to very similar apparatus and differ only in the arrangement of the limitations within the claim sets. For example, instant dependent Claim 2 is drawn to a capture ligand, which is further defined in Claim 19 as a nucleic acid. In slight contrast, independent Claim 1 of the '333 application is drawn to a probe, complementary to a molecule of interest. As such the claim sets are drawn to very similar apparatus that are not patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Response to Comments

21. Applicant states that the above rejection has been addressed by the filing of a Terminal Disclaimer.

Applicant's statement is noted. However, Applicant has not filed a Terminal Disclaimer.

The rejection is maintained and made FINAL.

22. Claims 1-7, 9-17, 19-21, 28, 43-44 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-24 of copending Application No. 10/336,549. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to similar apparatus that differ only in the terminology and grouping of the limitations. For example, instant Claim 1 is drawn to a suspended beam having channels and dependent Claim 161 is further drawn to detectors. In slight contrast, independent Claim 13 of the '549 application is drawn channels and a detector and dependent Claim 19 defines the channel as having mechanical resonance. Both claim sets require channel flexibility and differ only in the terminology used to describe the flex. As such the claim sets are drawn to very similar apparatus that are not patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Comments

23. Applicant states that the above rejection has been addressed by the filing of a Terminal Disclaimer.

Applicant's statement is noted. However, Applicant has not filed a Terminal Disclaimer.

The rejection is maintained and made FINAL.

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24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

25. No claim is allowed.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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